

maturing out of the instant application over the patent terms of each of the above-recited U.S. patents.

The Rejections

Under 35 U.S.C. § 103(a)

Over Robertson and Boyer

Claims 25-30 are rejected under 35 U.S.C. § 103(a) as being allegedly obvious over the disclosure of Robertson and Boyer.

The Examiner characterizes Robertson and Boyer as reporting the observation that orthophosphites do not interfere with enzymatic reactions to phosphate, and that the anion might be a useful buffer near neutral pH and that the orthophosphites were relatively non-toxic towards yeast and bacteria. The Examiner admits that Robertson and Boyer do not specifically disclose that the fertilizer should have a pH of less than about 2.5. Robertson and Boyer is further characterized as disclosing that sodium hydrogen phosphite solutions are diluted to the desired concentration and, therefore, Robertson and Boyer recognize that the concentrated phosphorous fertilizer may be diluted with water to obtain a use-dilution fertilizer.

The Examiner concludes that it would have been *prima facie* obvious "to provide such a concentration of the orthophosphites in the composition of the Robertson and Boyer to provide a pH of less than about 2.5 as recited in applicant's claims." The Examiner further concludes that it, therefore, would have been obvious to employ a concentration of such orthophosphites in an amount of about 30 weight percent to about 46 weight percent in the fertilizer of Robertson and Boyer.

Applicant believes that Robertson and Boyer is distinguished from the present invention for the same reasons that have been articulated in the reexamination of the parent and grandparent patents. All of the claims presently pending are patentable because they all require a concentration of phosphorous-containing acid or salt thereof in an amount of about 30 weight percent or greater, and also require this concentrated composition to be **buffered**. While Robertson and Boyer begin with concentrated compositions, these concentrated compositions are **not buffered**. Instead, they are taught as first being diluted to 0.1 molar stock solutions, and only then are formed as buffered solutions. There is no teaching, suggestion or disclosure in the article by Robertson and

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Boyer to provide a *concentrated* (i.e. about 30 weight percent or greater) phosphite solution, which is also *buffered*. Nor would there be any motivation from the prior art to do so.

Therefore, Applicant submits that the pending claims are not obvious over 35 U.S.C. § 103(a) and respectfully request the withdrawal of the rejection under 35 U.S.C. § 103(a) over Robertson and Boyer.

Double Patenting

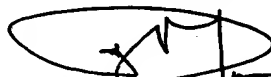
The pending claims are rejected under the judicially created doctrine of obviousness type double patenting over claims 1-22 of U.S. Patent No. 5,514,200; claims 1-34 of U.S. Patent No. 6,113,665; and claims 1-52 of U.S. Patent No. 5,830,255. The Examiner asserts that the pending claims would be *prima facie* obvious over the claims of the cited patents. Applicants disagree with the Examiner's assertion, however, to expedite prosecution, Applicant submits herewith a terminal disclaimer over each of the cited patents.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,


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CLAIMS PENDING AFTER AMENDMENT

1 25. A concentrated phosphorus fertilizer for irrigation application, said fertilizer
2 comprising a buffered composition comprising a phosphorous-containing acid selected from the
3 group consisting of phosphorous acid, hypophosphorous acid, polyphosphorous acid,
4 polyhypophosphorous acid and salts thereof, wherein said phosphorous-containing acid or salt
5 thereof is present in an amount of about 30 weight percent or greater, said composition having a pH
6 less than about 2.5.

1 26. The phosphorus fertilizer of claim 25 having a pH of less than about 1.5.

1 27. The concentrated phosphorus fertilizer as in claim 25 wherein said
2 phosphorous-containing acid or salt thereof is present in amount of about 30 weight percent to about
3 46 weight percent.

1 28. A method of providing phosphorus to a plant comprising distributing a liquid
2 concentrated phosphorus fertilizer comprising a buffered composition comprising a phosphorous-
3 containing acid selected from the group consisting of phosphorous acid, hypophosphorous acid,
4 polyphosphorous acid, polyhypophosphorous acid and salts thereof, wherein said phosphorous-
5 containing acid or salt thereof is present in an amount of about 30 weight percent or greater, through
6 an irrigation system and delivering said fertilizer to soil near said plant, said fertilizer having a pH
7 less than about 2.5.

1 29. The method of claim 28 wherein said fertilizer has a pH less than about 1.5.

1 30. The method as in claim 28 wherein said phosphorous-containing acid or salt
2 thereof is present in an amount about 30 weight percent to about 46 weight percent.